2. *Contributions to a Knowledge of the Fauna of South West Africa.* VIII. *Records and Descriptions of Acrididae from South West Africa.*—By B. P. Uvarov, Imperial Bureau of Entomology.

(With Plate II and 12 Text-figures.)

The present paper is based on a collection of South West African *Acrididae* submitted to me by Dr. E. L. Gill, Director of the South African Museum, and Dr. A. J. Hesse, of the same Museum. I wish to express here my thanks to both these gentlemen for the opportunity given me to study the interesting material.

The Orthopterous fauna of South West Africa seems to be very rich generally and in highly peculiar forms, but it is still imperfectly known.

Its study begun with Stål, who had some material from Ovamboland and Damaraland ; * Karsch † also published a short list of Orthoptera of the latter country. The next paper, by Krauss,‡ also contains a list of species taken at several places in South West Africa, but all these lists are much shorter than that published by Karny,§ which includes a large number of records and descriptions of many new species and genera. Unfortunately, the descriptions are all exceedingly brief, while the illustrations of new forms on the plate are quite useless, being not more than the roughest of sketches, so that most of Karny's species published in that paper remained unrecognisable. As a result, some of them have been recently described by me ‖ under other names, and I am glad to be able to establish their correct synonymy now, when I have had an opportunity to study the types

* Stål, C., "Bidrag till södra Afrikas Orthopter-fauna."—Öfver. K. Vet.-Akad. Förhandl., 1876, No. 3, pp. 29–76.

† Karsch, F., "Verzeichniss der von Herrn Waldemar Belck, 1885, in Damara-Land gesammelten Orthopteren."—Entom. Nachr., xiii, 1887, pp. 39–46.

‡ Krauss, H. A., "Beitrag zur Kenntniss der Orthopteren Deutsch-Südwestafrikas."—Verh. zool.-bot. Ges. Wien, li, 1901, pp. 281–293.

§ Karny, H., "Orthoptera," in Leonard Schulze, "Zoologische und anthropologische Ergebnisse einer Forschungsreise im westlichen und zentralen Südafrika."—Denkschr. med.-nat. Gesellschaft, Jena, xvi (4), 1910, pp. 35–90, 1 plate.

‖ Uvarov, B. P., "On some new short-horned grasshoppers (*Acrididae*) from South Africa."—Ann. Natal Museum, v, 1925, pp. 159–187, 24 figs.

of Karny's species, kindly sent to me by Professor Dr. W. Ramme, of the Berlin Museum. I hope that the present paper will be a useful supplement to that of Karny.

The paper does not include the whole of the South West African *Acrididae* received from the Cape Town Museum, because I thought it better to defer the determination of species of certain difficult groups until it becomes possible to study the groups critically on the basis of a larger material from various parts of South Africa ; I hope to have this opportunity before very long, as I am undertaking to work out the whole collection of the Cape Town Museum. The groups and genera left partly, or wholly, out of the present paper are Pamphaginae (except a new species of *Charilaus*), most of the Calliptamini, genera *Acrotylus*, *Methone*, and a few others.

Apart from the Cape Town material, I have included in the paper some records of the species collected recently in South West Africa by Mr. R. E. Turner and presented by him to the British Museum. I am very grateful to Mr. Turner for the attention he paid to the collecting of Orthoptera at my special request ; it will be seen from the text that he succeeded in discovering some very interesting species.

The types of the new species (except when unique) have been presented to the British Museum (Natural History) ; the unique types and paratypes of other species are in the South African Museum, Cape Town.

All illustrations for the paper have been made by Mr. D. E. Kimmins, and I am very much obliged to him for the careful execution of the work.

Subfamily ACRIDINAE.

Genus Acridella I. Bolivar.

Acridella rendalli (Kirby).

South West Africa : Windhoek, 1919, 1 ♀ ; Tsumeb, December 1919, 2 ♀♀ (R. W. Tucker).

Apart from the striking coloration of the hind wings, this species is remarkable for its very long and narrow antennae, even in the female sex, the male being still unknown.

Acridella serrata (Thunberg).

Windhoek, November 1920, 1 ♀ (S. Gilman).

There are two other species of *Acridella* in the collection, but I have to leave them unnamed until more South African material of

this genus is available for study. Karny (*l.c.*) recorded *A. variabilis*, Klug, from South West Africa, but the name conveys very little.

Genus Thyridota Uvarov.

1925. *Thyridota*, Uvarov, Ann. Natal Museum, v, p. 160.

Thyridota dispar Uvarov.

South West Africa : Narebis, 1921, 1 ♂, 2 ♀♀ (K. H. Barnard) ; Kamanyab, March 1925, 2 ♂♂ (Mus. Exped.) ; Otjiverongo, April 1921, 1 ♂, 1 ♀ (J. S. Brown).

Genus Platypternodes I. Bolivar.

Platypternodes crevipes (Stål.)

South West Africa : Kamanyab, January 1925, 1 ♂ (Mus. Exped.) ; Tsintsabis, December 1919, 1 ♂, 1 ♀ (R. W. Tucker) ; Otjituo, January 1925, 1 ♂ (R. W. Tucker).

Genus Duronia Stål.

Duronia chloronota Stål.

A series of specimens from various localities.

Genus Orthochtha Karsch.

Orthochtha dasycnemis (Gerstaecker).

South West Africa : Gaub, January 1919, 3 ♂♂ (R. Lightfoot).

Genus Paracinema Fischer.

Paracinema tricolor (Thunberg).

South West Africa : Nuragas, January 1919, 2 ♀♀ (R. Lightfoot) ; Waterberg, February 1920, 1 ♂, 2 ♀♀ (R. W. Tucker) ; Otjituo, January 1920, 1 ♂ (R. W. Tucker).

Genus Pseudogmothela Karny.

1910. *Pseudogmothela*, Karny, *l.c.*, p. 79.

1921. *Pachycarus*, Uvarov, Ann. Mag. Nat. Hist. (9), vii, p. 383 (*syn. nov.*).

Karny described his genus on the basis of three very poor specimens without hind legs. He said in the description that the pronotum has

inflexed lateral keels, while in fact the keels are scarcely perceptible at all. A direct comparison of the genotype, *Pseudogmothela rehni*, with the three known species of my genus *Pachycarus* convinced me of the identity of the genera, though *P. rehni* is well distinct specifically from its congeners.

Pseudogmothela rehni Karny.

From the three typical females I select here as the single type that from Lehututu-Kgokong.

By the venation of the elytra, *P. rehni* comes near my *P. media*, known in the male sex only, while no males are known for *P. rehni*. In any case, the two species must be different, since even the female of *P. rehni* has quite long elytra and wings, while even the male of *P. media* is short-winged. Besides, the fastigial foveolae in *P. rehni* are rather of the type observed in *P. pallida* (Kirby) (see my description of it, *l.c.*), and not as narrow as in *P. media*.

Pseudogmothela stauronotus (Uvarov).

1921. *Pachycarus stauronotus*, Uvarov, Ann. Mag. Nat. Hist. (9), vii, p. 385, figs. 2A, 3A.

Kamanyab, South West Africa, 1 ♂.

Genus Leva I. Bolivar.

Leva angulata (Karny).

(Text-fig. 1.)

1910. *Paragymnobothrus angulatus*, Karny, *l.c.*, p. 80.

Karny's brief original description may be supplemented by the following remarks and a drawing of the type (fig. 1); the latter is an exceedingly poor specimen, having been preserved in alcohol, entirely discoloured and shrunk.

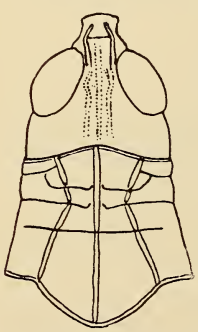

Fig. 1.—*Leva angulata* (Karny), ♀ type.

Frontal ridge convex throughout, broad, scarcely narrowed at the ocellum, the apex not quite acute, separating the fastigial foveolae from each other. The foveolae are vertical, imperfectly marginated below, somewhat longer than broad, not narrowed in front. Fastigium of vertex acute, pentagonal, longer than broad. Lateral pronotal keels angulately inflexed, obsolescent between the first and the second sulcus, in metazona somewhat convex. Elytra extending a little beyond the hind knees.

I have examined one female from Walfish Bay, and I select it here as the single type.

Genus Paragymnobothrus Karny.

1910. *Paragymnobothrus*, Karny, *l.c.*, p. 80.

1925. *Homalohippus*, Uvarov, Ann. Natal Museum, v, p. 163 (*syn. nov.*).

Karny in his description of *Paragymnobothrus* laid special stress on the position of the fastigial foveolae, which he stated to be scarcely, or not at all, visible from above. This made me (Ann. Mag. Nat. Hist., ser. 9, ix, p. 539) to regard *Paragymnobothrus* as a synonym of *Leva*, Bol., while I identified South African species of the latter genus with *P. rectus*, Karny. With the types of Karny's two original species, viz. *Paragymnobothrus rectus* and *P. angulatus*, before me now, I see that (1) they are not congeneric ; (2) that *P. rectus* is conspecific with my *Homalohippus coerulipes* (see below) ; (3) that *P. angulatus* is a *Leva* ; (4) that the insect identified by me as *Leva recta*, Karny, is an undescribed species of *Leva*. Since I have made a suggestion (*l.c.*) that *P. rectus* should be considered the genotype of *Paragymnobothrus*, while *Homalohippus coerulipes* is the type of its genus, it follows that *Paragymnobothrus*, Karny, has preference over *Homalohippus*.

Paragymnobothrus rectus Karny.

1910. *Paragymnobothrus rectus*, Karny, *l.c.*, p. 80.

1925. *Homalohippus coerulipes*, Uvarov, Ann. Natal Mus., v, p. 164, figs. 5, 6, 8 (*syn. nov.*).

I have examined, apart from the typical series of my species, one male and one female, which are the types of Karny's species, and I select here the male from Lookaneng-Severelela, Kalahari, as the single type.

Genus Prostethophyma I. Bolivar.

1909. *Prostethophyma*, I. Bolivar, Bol. Soc. Esp. Hist. Nat., 1909, p. 295.

1910. *Paraduronia*, Karny, *l.c.*, p. 81 (*syn. nov.*).

1914. *Prostethophyma*, I. Bolivar, Trab. Mus. Nac. Cien. Nat., ser. Zool., No. 20, pp. 49, 51.

Bolivar described his genus *Prostethophyma* in 1909 very briefly in a key to the genera of Acridinae (Truxalinae) and without quoting any species under it, and only in 1914 he published a full description

of the genus and of its first species, *P. cephalica*, Bol. In the meantime Karny described *Paraduronia*, which, as I see now from the examination of the type species (see below, *Prostethophyma platypternoides*), does not differ from *Prostethophyma*. It would seem, therefore, that the name *Paraduronia*, Karny, should be used for the genus, but this is a name preoccupied by Bolivar, who, in the same paper of his (*l.c.*, p. 289), used it for an Indian genus with two properly quoted species in it. Thus, the name *Prostethophyma*, Bol. is still the only one available for the genus. Of course, it may be argued that *Prostethophyma*, 1909, became suppressed by *Paraduronia*, Karny, 1910, so that a new name is wanted for the genus, but I am not inclined to accept this ultra-formal point of view.

In addition to the genotype, *Prostethophyma cephalica*, Bol., I have described a species *P. minor*, which turns out to be a synonym of *P. platypternoides*, Karny, and there are two new species in the British Museum collection and one in the South African Museum which I describe below.

Prostethophyma platypternoides (Karny).

1910. *Paraduronia platypternoides*, Karny, *l.c.*, p. 82.

1921. *Prostethophyma minor*, Uvarov, Ann. Mag. Nat. Hist. (9), viii, p. 375, fig. 1B (*syn. nov.*).

Karny's type is a little smaller than mine, but otherwise there is no difference between them.

Prostethophyma crassicornis, sp. n.

(Text-fig. 2.)

♂ (*type*). Antennae extending a little beyond the pronotum, strongly incrassate, in the apical part compressed and twisted.

Face strongly oblique. Frontal ridge moderately broad, broadly and deeply sulcate from above the ocellum downwards, in profile slightly concave at the ocellum. Fastigium strongly projecting forward, narrow, oval, distinctly concave ; its antero-lateral sloping margins narrow, so that there is no room for the foveolae, which are replaced by a few irregular punctures.

Maxillary palpi with the apical joint dilated, oval, longer than it is broad, with its apex truncate. Labial palpi with the last joint slightly compressed and dilated.

Pronotum rugulose and punctured. Lateral carinae feebly developed

and irregular, parallel in front of the first sulcus, divergent behind it, obsolescent in metazona. Median carina very distinct throughout, linear. The typical sulcus well developed, the other two feeble. Hind angle obtuse, rounded.

Elytra reaching the hind knees, broad. Venation (fig. 2) very like that in *P. cephalica*, Bol. (see Uvarov, *l.c.*, fig. 1A), but the externo-median area narrowed apically, the interradial area narrower.

Hind femora relatively short and thick. The two inner spurs of hind tibiae not very different in size.

Coloration as in *P. cephalica*. Antennae blackish. Apical joint of maxillary palpi blackish-brown. Pronotum with a broad pale median stripe, included between two irregular blackish lines. Elytra slightly infumate throughout, more distinctly so in the apical part;

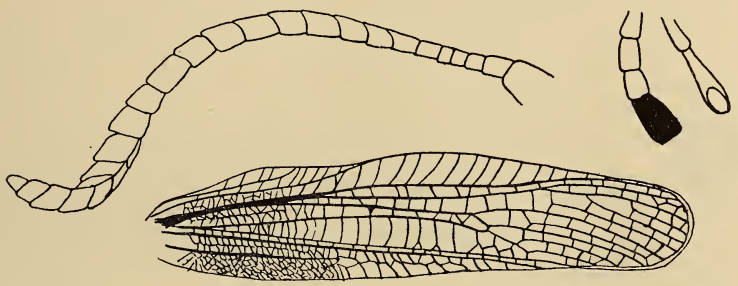

FIG. 2.—*Prostethophyma crassicornis*, sp. n., ♂. Antenna, palpi, and elytron.

scapular area with a pale yellowish streak in the basal part; basal portions of radial veins blackish. Wings rather broadly infumate at the apex. Hind femora orange coloured, with three grey spots above; knees broadly blackened all over; hind tibiae orange.

Length of body, 16·5; pronotum, 4; elytra, 13; hind femur, 10 mm.

A single male from Kaross, South West Africa, February 1925 (South African Museum).

The structure of the head in this species is very remarkable, since there are no foveolae of the vertex, which are more or less developed in other species of the genus. This is due obviously to the unusual narrowness of the vertex, and there is no reason to suggest that *P. crassicornis* should be removed from the genus. Indeed, *P. platypternoides* has the foveolae only faintly indicated by a series of punctures, and occupies in this respect a position intermediate between other congeners and *P. crassicornis*. Other interesting features of the new species are the structure of antennae and of the maxillary palpi.

Prostethophyma palpalis, sp. n.

(Text-fig. 3.)

♂ (*type*). Of the same size as *P. crassicornis*, but more robust.

Antennae extending well beyond the pronotum, slender, their apical third compressed and twisted. Face moderately reclinate. Frontal ridge unusually broad, finely punctured throughout, slightly sulcate in the lower part. Fastigium moderately projecting forward, broadly oval, feebly concave, with a median carinula. Foveolae well developed, twice as long as broad, slightly curved, punctured.

Maxillary palpi with the apical joint strongly dilated, round,

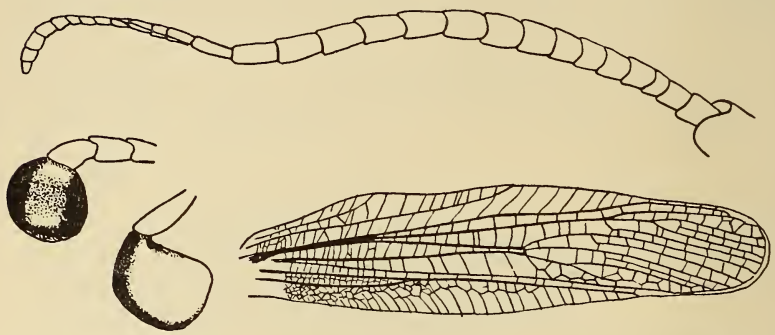

Fig. 3.—*Prostethophyma palpalis*, sp. n., ♂. Antenna, palpi, and elytron.

broader than long. Apical joint of the labial palpi still more strongly expanded (fig. 3).

Pronotum moderately rugulose. Lateral carinae feeble, irregular, in front of the first sulcus slightly convergent, between the sulci slightly divergent, in metazona distinctly divergent and feebly convex. Median carina well distinct, linear. All transverse sulci feeble. Hind angle obtuse.

Elytra (fig. 3) scarcely extending beyond the hind knees. Venation rather similar to that in *P. platypternoides* (see Uvarov, *l.c.*, fig. 1b, *P. minor*), but the scapular area is broader and interradial area narrower.

Coloration brownish. Antennae pale testaceous, but blackened apically. The expanded apical joints of both palpi ivory white marked with black. Lateral pronotal lobes with a pale longitudinal streak below the middle. Elytra not infumate, except at the apex and there only slightly, but with 2–3 indefinite darkish spots

before the apex ; radial veins brown. Wings with the apex infumate. Hind femora of the general colour, with indefinite spots above ; knees blackish only on the sides. Hind tibiae reddish.

♀ (*paratype*). Head thick. Antennae shorter than head and pronotum together, filiform, with blackish apices. Apical joints of palpi slightly dilated. Head and pronotum above with a pale median stripe.

Length of body, ♂ 16, ♀ 21 ; pronotum, ♂ 4, ♀ 4·5 ; elytra, ♂ 13, ♀ 14·5 ; hind femur, ♂ 10·5, ♀ 12 mm.

Three males and one female taken at Harrismith, Orange Free State, Feb. 1927 (R. E. Turner ; British Museum).

The structure both of palpi and antennae in this species is very striking, though both these characters represent only a further development of the specialisation of those organs observed in *P. crassicornis*.

Prostethophyma bechuana, sp. n.

(Text-fig. 4.)

♂ (*type*). Antennae filiform, straight, extending well beyond the pronotum.

Face moderately oblique, coarsely punctured. Frontal ridge fairly broad, parallel-sided, shallowly excavate in the region of the ocellum, coarsely punctured. Fastigium of vertex projecting well forward,

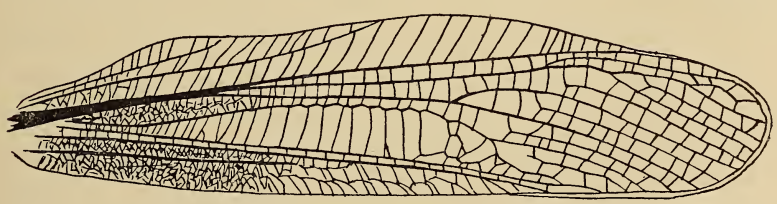

Fig. 4.—*Prostethophyma bechuana*, sp. n., ♂. Elytron.

considerably longer than broad, antero-lateral margins almost straight, forming an acute, scarcely rounded, apical angle ; the surface feebly concave, with a distinct, though irregular, median carinula which extends on to the occiput. The latter with transverse rugosities on both sides of the carinula. Foveolae of vertex not developed, but their spaces fairly broad and punctured.

Maxillary and labial palpi with all joints normal, not dilated.

Pronotum densely, but not coarsely, punctured all over. Lateral carinae developed only in the prozona, where they are rounded-

inflexed ; in the metazona they are represented only by a pair of elongate tubercles immediately behind the typical sulcus, and are obsolete in the rest. Median carina well distinct, linear. The first two transverse sulci obsolete, the typical sulcus feeble, but distinct. Hind margin not broadly rounded.

Elytra extending beyond hind knees. Venation (fig. 4) similar to that in *P. cephalica*, but the radial veins are practically straight and the discoidal area narrow.

The two inner spurs of the hind tibiae differ in length.

Coloration uniformly black, only in places fading into brownish-black. Antennae brown. Elytra strongly and uniformly infumate. Wings bluish at the anal margin, strongly infumate in the rest.

♀ (*paratype*). Brownish-black ; hind femora with a testaceous pre-apical ring, and on the inside of the upper surface with two testaceous spots.

Length of body, ♂ 20, ♀ 24·5 ; pronotum, ♂ 4·5, ♀ 6 ; elytra, ♂ 15·5, ♀ 19 ; hind femur, ♂ 11·5, ♀ 14 mm.

One male and three females taken at Ghanzi, Mongalatsila, Bechuanaland, January 29 to March 12, 1925 (J. Maurice ; British Museum).

The uniform black coloration of this insect may be not a specific character ; similar charcoal-black forms are known for many African grasshoppers, especially in areas where the grass has been recently burnt.

Genus Aiolopus Fieber.

Aiolopus thalassinus (Fabricius) ?

A series of specimens from several localities.

I am not at all convinced that the range of the European *A. thalassinus* is really as wide as the existing records make it. It seems more reasonable to suggest that several species are confused at present under the name, but the question cannot be settled without a thorough revision of the genus. In the meantime, I cannot be certain of the identification of the South West African specimens.

Subfamily OEDIPODINAE.

Genus Humbe I. Bolivar.

Humbe tenuicornis (Schaum).

South West Africa : Tsumeb, January 1920, 1 ♂ (E. Kochig) ; December 1919, 1 ♀ (R. W. Tucker) ; Outjo, January 1925, 1 ♀ (Mus.

Exped.); Windhoek, 1919, 1 ♀; Gaub, January 1919, 1 ♀ (R. Lightfoot).

Genus Oedaleus Fieber.

Oedaleus nigrofasciatus (De Geer).

1773. *Acrydium nigrofasciatum*, De Geer, Mem. Ins., iii., p. 493 (*nec auct.* !).

1884. *Oedaleus nigrofasciatus* var. *gracilis*, Saussure, Prodr. Oedip., p. 116.

1922. *Oedaleus gracilis*, Uvarov, Ann. Mag. Nat. Hist. (9), ix, p. 102.

South West Africa: Gaub, Dec. 1919, 2 ♂♂ (R. W. Tucker); Tsumeb, January 1920, 1 ♂, 1 ♀ (F. Kochig); Okahandja, 19–29, iii, 1928, 1 ♀ (R. E. Turner; British Museum).

The correct interpretation of De Geer's species has been given by me in a discussion of synonymy of the Mediterranean *Oedaleus decorus*, Germ. (Novitates Zoologicae, xxx, 1923, p. 69).

Genus Pycnodictya Stål.

Pycnodictya herero Karny.

(Plate II, fig. 1.)

Tsumeb, December 1919, 1 ♀ (R. W. Tucker).

A very striking insect, of which I thought it useful to give a coloured figure, since the identification of species in this genus depends to a large extent on the coloration, especially of the hind wings and legs.

The specimen figured has been compared by me with the type, and agrees with it in all essential characters, though differing in the general colour of the head, pronotum, and elytra, which cannot be considered of importance.

From the two cotypes, on which the species has been originally described, I select here the female from Okahandja as the single type; the other female is badly discoloured.

Genus Scintharista Saussure.

Scintharista magnifica Uvarov.

1922. *Scintharista magnifica*, Uvarov, Ann. Mag. Nat. Hist. (9), ix, p. 105.

Okahandja, 13–19, i, 1928, 6 ♀♀ (R. E. Turner; British Museum); Zesfontein, February 1925, 1 ♂; Kamanyab, March 1925, 1 ♂, 1 ♀

(Mus. Exped.); Usakos, February 1920, 1 ♂ (R. W. Tucker); Windhoek, November 1920, 2 ♀♀ (S. Gilman).

Genus Acrotylus Fieber.

Acrotylus diana Karny.

N. Bechuanaland: Ghanzi, Mongalatsila, 3, xii, 1924, 1 ♀ (J. Maurice; British Museum); Ovamboland: Ondongua, 1 ♀, Mafa, 1 ♂, 1921 (K. H. Barnard; South African Museum).

A female from the typical series labelled Windhoek is selected here as the single type of the species.

Acrotylus patruelis (Herrich-Schaeffer).

Numerous specimens from various localities.

I am not quite convinced that South African specimens usually identified as *A. patruelis* are really that European species. Indeed, there seem to be more than one species of this group in Africa, specimens from different regions being somewhat distinct in the length of antennae, shape of the frontal ridge, etc. A thorough revision of the group would be most desirable.

Karny recorded also *A. humbertianus*, Saussure, from South West Africa, but two specimens named so by him are before me now and they are only badly discoloured examples of *A. patruelis*. I am almost certain that *A. humbertianus*, a species of India and Ceylon, does not occur in Africa, at least not in South Africa.

Genus Sphingonotus Fieber.

Sphingonotus scabriculus Stål.

South West Africa: Okahandja, January 20 to February 23, 1928, 2 ♂♂, 2 ♀♀ (R. E. Turner; British Museum); Kamanyab, January 1925, 1 ♀; Outjo, January 1925, 2 ♀♀; Choabendus, January 1926, 1 ♀; Hoarusib (Otshu), March 1926, 1 ♀ (Mus. Exped.); Kalkfontein, February 1923, 2 ♂♂ (J. S. Brown); Omaruru, 1921, 1 ♀ (J. S. Brown); Namutoni, 1921, 1 ♂ (K. H. Barnard).

Sphingonotus lobulatus Karny.

1910. *Sphingonotus scabriculus* var. *lobulatus*, Karny, *l.c.*, p. 75.

Karny described this insect very briefly, separating it from *S.*

scabriculus only by the hyaline, non-fasciated hind wings. The type before me (a female from Windhoek, selected here as the single type) is in a very poor state of preservation, having been preserved in some liquid before it was pinned, and the shape and sculpturing of the head and pronotum are considerably distorted. Nevertheless, the shape of the lateral pronotal lobes is very different from that in *S. scabriculus*, their anterior lower angle forming a rounded lobe projecting forwards and downwards and the lower margin being, in consequence, sinuate and more oblique than in *S. scabriculus*. Hind margin of the pronotal disc is in this insect less lobate than in *S. scabriculus* and its hind angle more acute.

It is difficult to decide whether these characters, and the absence of the wing fascia, are sufficiently constant to be of specific value, but I prefer to consider *S. scabriculus* and *S. lobulatus* distinct specifically, at least tentatively.

Genus Xenotettix Uvarov.

1925. *Xenotettix*, Uvarov, Ann. Natal Museum, v, p. 170.

Xenotettix calcarata, Uvarov.

South West Africa : Kubib, January 5, 1916, 1 ♂ (R. W. Tucker).

I have described this interesting grasshopper (*l.c.*, p. 175, figs. 13–17) from a single female taken 36 miles east of Port Nolloth, and the male has not been known hitherto. It agrees in all essential characters with the female, but is very much smaller, the measurements being as follows :—

Length of body, 11·5 ; pronotum, 2·5 ; elytra, 10 ; hind femur, 7·5 mm.

Genus Microtmethis Karny.

Microtmethis kuthyi Karny.

(Text-fig. 5.)

South West Africa : 1 ♀ ; Luderitzbucht, 1909, 1 ♀ (R. Marloth).

Karny described this remarkable insect from the male sex only ; I have before me two females which obviously belong to the same species, though differing greatly in size.

The genus is allied to *Brainia* Uv. (Ann. Mag. Nat. Hist., ser. 9, ix, 1922, p. 103), differing from it in the shape and venation of the elytra, in the expanded and reflexed hind angles of lateral pronotal lobes, and in the strongly flattened, scarcely marginated, frontal ridge.

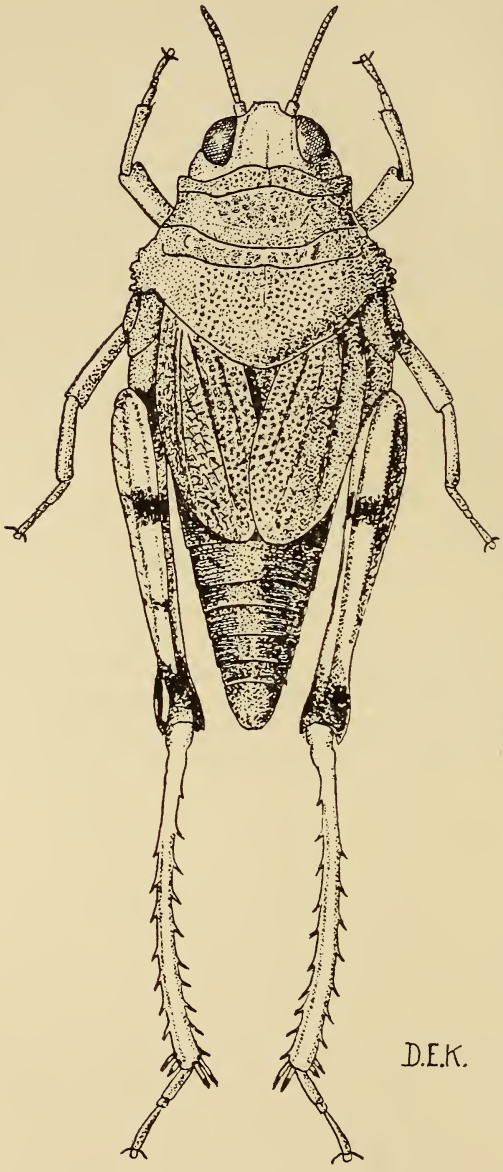

Fig. 5.—*Microtmethis kuthyi*, Karny, ♀.

Anterior margin of the prosternum in *Microtmethis* is distinctly reflexed, collar-like. Hind angles of the lateral pronotal lobes in the female of *M. kuthyi* are more expanded than in the male and much more strongly crenate. Frontal ridge in the three cotypic males before me is better pronounced than in the females, but this is apparently due to the fact that the males shrunk after being preserved in alcohol. Wings in the female sex are only about half the length of the elytra. Other characters of the insect may be seen from the figure.

The measurements of the female of *M. kuthyi* are as follows: Length of body, 25 ; pronotum, 8 ; elytra, 10 ; hind femur, 14 mm.

I select here one of the males from Luderitzbucht as the single type of *M. kuthyi*.

Genus Lithidium Uvarov.

1925. *Lithidium*, Uvarov, Ann. Natal Museum, v, p. 177.

Lithidium pusillum Uvarov.

1925. *Lithidium pusillum*, Uvarov, *l.c.*, p. 178, figs. 18, 19, 20.

South West Africa : Luderitzbucht, 1 ♀, 1 larva ; no exact locality, 1 ♀ ; Otjimbingue, 1 larva (Berlin Museum).

The four specimens recorded are cotypes of *Pseudobufonacris mendax*, Karny, under which name the author confused representatives of two genera, viz. *Lithidium* and *Eneremius*, Saussure (see below, p. 57).

The two adult females do not differ in any essential characters from the two original ones described by me. The male of this curious insect still remains unknown ; it must be a very minute creature.

Lithidium rubripes sp. n.

(Text-fig. 6.)

♀ (*type*). A little larger than the genotype, and differing from it in the structure of the head, sculpture of the body, and coloured hind legs.

Antennae about as long as head and pronotum together. Face densely punctured ; frontal ridge particularly so. Fastigium of vertex evenly punctured all over, without sulci or ridges of any kind, not at all separated from the frontal ridge or from the occiput.

Pronotum shallowly punctured, scarcely rugulose. Two of the transverse sulci distinct, joined in the middle. Median keel represented only by a very fine smooth line ; lateral keels indicated in the prozona

by two small, smooth, very low tubercles. Hind margin of the disc less deeply festooned than in the genotype. Prosternum with the front margin broadly prominent and rounded-excised. Mesonotum and metanotum smooth, with fairly large, but shallow and not dense, punctures.

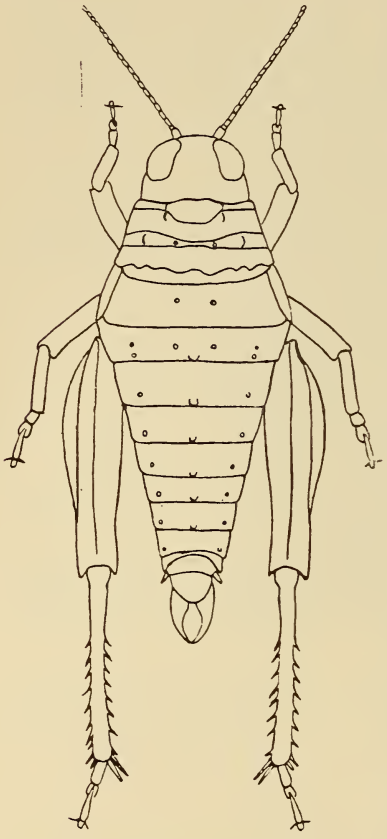

Fig. 6.—*Lithidium rubripes*, sp. n., ♀.

Abdomen more densely punctured than metanotum, but not rugulose; each tergite with a minute round tubercle at the middle of the hind margin and one (or two) slightly larger round tubercles on the sides.

Hind femora very thick and broad, covered with long hairs; upper carina denticulate; lower outer area broad, almost parallel-sided, flat. Hind tibiae with 6 outer and 7 (apart from the apical) inner spines.

Coloration whitish-ochraceous. Antennae with some blackish rings. Front and middle legs with black dots. Hind femora with black dots along the lower outer carina and on the knees, with a blackish pre-apical transverse spot above; the inner side slightly reddish. Hind tibiae red; their spines black-tipped. Median tubercles of abdominal tergites and densely placed dots on the apical tergites, black.

Total length, 18; pronotum, 3·5; metanotum, 2·5; width of body at the metanotum, 7; length of hind femur, 8·5; width of hind femur, 3·5 mm.

The type is from Haris, South West Africa, 9, i, 1916 (R. W. Tucker); a paratypic female is labelled simply Br. South West Africa (R. W. Tucker). The type is in the British Museum, the paratype in the South African Museum.

The paratype differs from the type only in its darker general

coloration, hind tibiae being bright red and the under side of the abdomen also red.

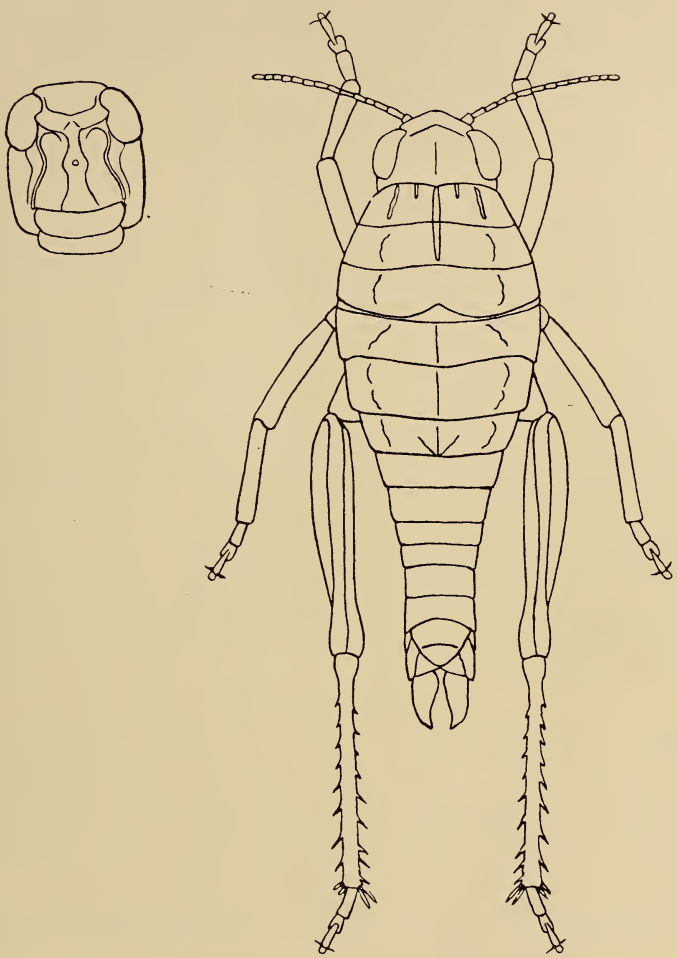

Fig. 7.—*Eneremius mendax* (Karny), ♀.

Genus Eneremius Saussure.

1888. *Eneremius*, Saussure, Addit. ad Prodr. Oedip., p. 160.

1910. *Pseudobufonacris*, Karny, *l.c.*, p. 76 (*syn. nov.*).

A study of the original series of *Pseudobufonacris mendax*, Karny, revealed the fact that it includes representatives of two genera, one of them being my *Lithidium* (see above), *i.e.* a member of *Thrincini*,

while two specimens belong to a genus of *Tmethini*, and I was unable to find in them any characters separating them from *Eneremius* of Saussure. Since one of these two specimens is selected by me as the type of *Pseudobufonacris mendax*, Karny's genus falls as a synonym of *Eneremius*, Saussure.

Eneremius mendax (Karny).

(Text-fig. 7.)

1910. *Pseudobufonacris mendax*, Karny, *l.c.*, p. 77 (*partim* !).

As I have just mentioned, the original series of *Pseudobufonacris mendax* includes two insects which are very distinct, though similar superficially. Two adult females, taken at Warmbad, belong to *Eneremius* ; one of them is designated here as the single type of *P. mendax* ; it agrees best of all with the original measurements. Two other adult females belong to my *Lithidium pusillum* (see above), while two larvae, one from Luderitzbucht, another from Otjinbingwe, also probably belong to the last-named species, or, at any rate, the genus.

It is not impossible that *E. mendax* does not even differ specifically from *E. mutus*, Saussure, but the latter is known to me by its description only, and a direct comparison of the types would be necessary to establish the synonymy.

Bufotettix, gen. nov.

Allied to *Crypsicerus* Sauss., differing from it in the antennae exceeding the vertex ; in the frontal ridge with well-raised margins ; in the vertex forming a very obtuse, rounded angle with the frons ; and in the presence of a small apical spine on the inner side of hind tibiae.

I hope to publish a re-description of *Crypsicerus* Sauss. at a later date after the unique type of *C. cubicus* Sauss., which belongs to South African Museum and is before me now.

Bufotettix rubridens, sp. n.

(Plate II, fig. 2 ; text-figs. 8 and 9.)

♂ (*type*). Antennae 13-jointed, stout, rounded, short, but surpassing the vertex considerably when turned upwards. Head very large. Face sloping forward, very broad, with shiny callous tubercles. Frontal ridge with the margins regular above the ocellum and re-

presented by series of tubercles below it ; it is constricted at the fastigium, elongate-oval in the upper part, strongly constricted again below the antennae, divergent towards the clypeus. Antennal sulci moderately deep, converging upwards, but remaining broadly separated by the frontal ridge. Foveolae of vertex fully frontal, elongate-trapezoidal, with irregular callous margins. Vertex strongly transverse, slightly sloping, forming an obtuse angle with the face ; its front margin straight, raised, interrupted in the middle and depressed near the lateral angles ; its surface transversely impressed. Top of the head with rounded shiny tubercles ; behind the eyes some radial callous ridges. Cheeks obtusely granose. Clypeus very large and broad. Mandibles very large, with strong teeth. Occiput strongly convex.

Pronotum smaller than the head, decidedly transverse, with the anterior margin slightly concave and the posterior broadly and regularly rounded ; the surface slightly concave, covered by numerous tubercles. Lateral keels well distinct, though irregular, deeply cut by the typical sulcus, which is distinct on the disc but obsolescent in its middle. There is no median carina, only a slightly depressed median line free of tubercles. Hind margin thick and bearing a series of subacute tubercles placed at regular intervals. Lateral lobes concave, smooth in prozona, tuberculate in metazona, trapezoidal in shape, deeper than long ; the typical sulcus very deep ; anterior lower angle slightly more than 90° ; lower margin feebly sinuate ; posterior angle obtuse.

Prosternum with the front margin expanded and forming a strongly transverse trapezoidal plate.

Mesonotum short, minutely granose. Metanotum with a smooth subtriangular plate in the middle, a median and a pair of sublateral round tubercles on the hind margin. Pleurae tuberculate.

Abdomen strongly conical, with the apex recurved. Each tergite bears a median and a pair of sublateral tubercles on the hind margin.

Supra-anal plate elongate-triangular. Cerci very short, irregularly oval, not longer than broad. Subgenital plate recurved, obtusely conical.

Hind femora broad and short. Upper carina almost straight, suddenly lowered before the knees ; lower carina more expanded than the upper, broadly convex. The outer side of both carinae bearing low round tubercles ; the outer median area convex, irregularly ridged, and imperfectly separated from the upper outer area. Hind tibiae

armed with 6 outer and 7 inner spines ; there is also on the inner side a small apical spine.

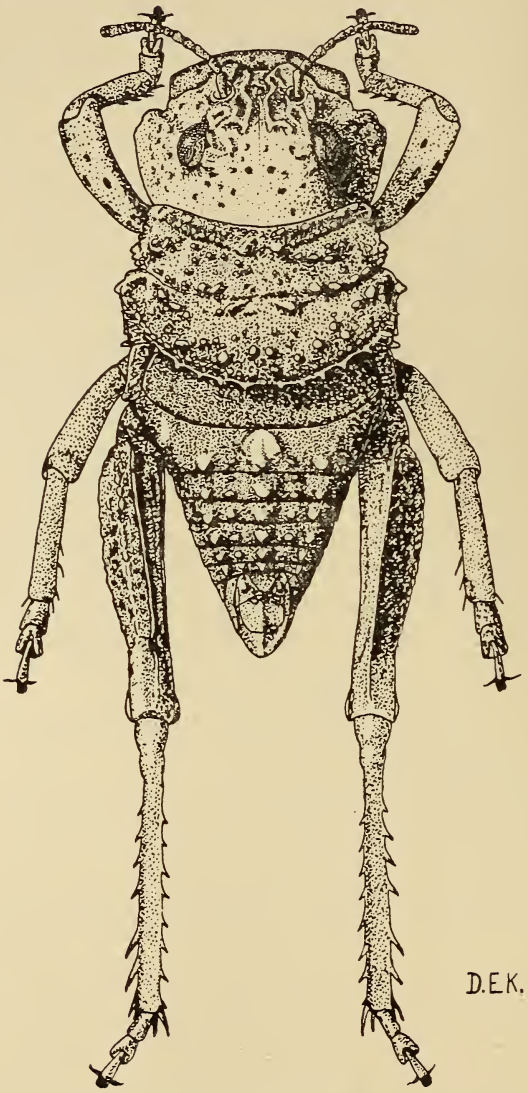

Fig. 8.—*Bufotettix rubridens*, g. et sp. n., ♂

General coloration pale testaceous. Antennae blackish, except basally. Antennal furrows purple. Mandibles of brilliant sealing-wax-red, marginated with black. Lower inner sulcus of hind femora

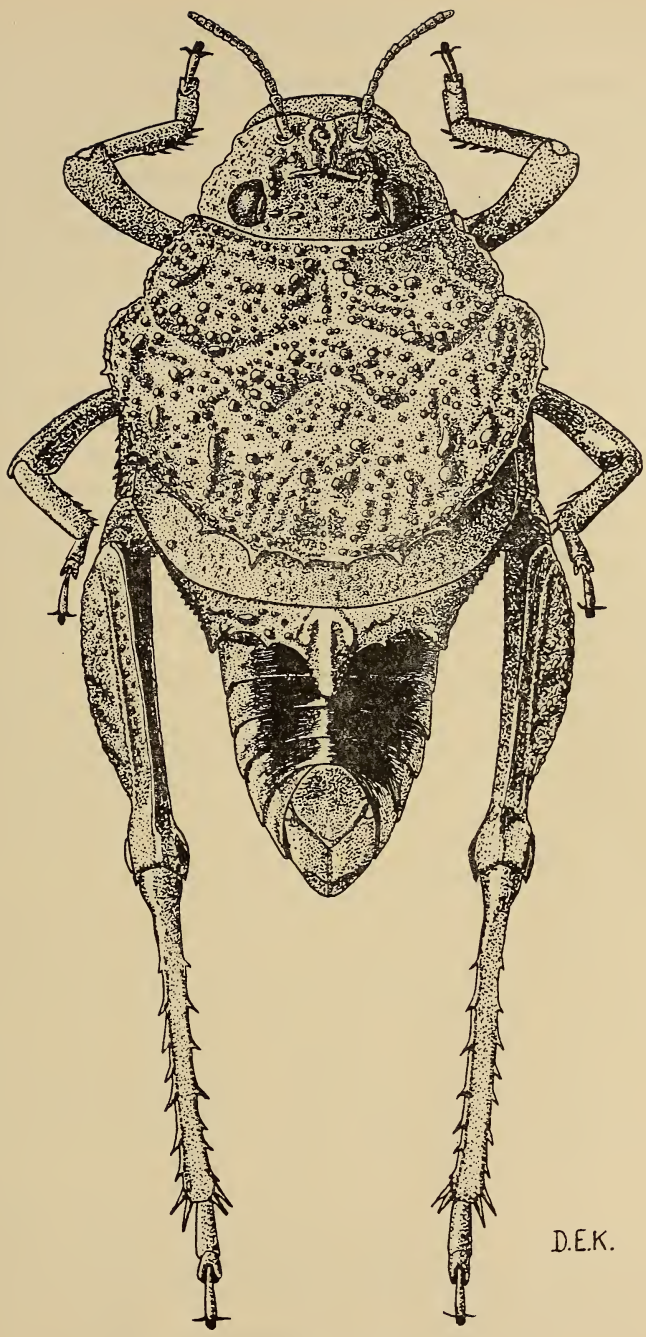

FIG. 9.—*Bufotettix rubridens*, g. et sp. n., ♀.

pale cinnabar red. Hind tibiae wax-yellow ; their spines with black tips.

♀ (*paratype*). Somewhat larger than the male and very different from it in general appearance, owing to the relatively smaller head and the very strongly dilated pronotum, mesonotum, and metanotum.

Face narrower than in the male, with numerous round tubercles. Frontal ridge with the margins irregular even above the ocellum. Vertex forming a very obtuse angle with the face ; occiput not convex, concealed under pronotum.

Pronotum extremely broad, transverse. The surface very feebly selliform, covered with numerous tubercles partly arranged in series. Hind margin semicircular, armed with conical tubercles.

Mesonotum very broad, convex, almost smooth. Metanotum also strongly expanded, with an obtuse median carina ending with an acute median projection ; there are on the hind margin two shorter lateral projections and some small tubercles ; the surface of the metanotum uneven and with tubercles.

Abdomen relatively small, conical, with a median and two lateral series of tubercles.

Valves of the ovipositor short and very stout, excavate and indented near the apices.

Length of body, ♂ 30, ♀ 36 ; pronotum, ♂ 8·5, ♀ 15 ; maximum width of pronotum, ♂ 15, ♀ 20 ; hind femur, ♂ 16·5, ♀ 19 mm.

South West Africa : Karibib, March 1923, 6 ♂♂ (including the type which, together with some of the paratypes, is labelled simply " Karibib, South West Africa "), 7 ♀♀ (Mus. Exped.).

This extraordinary insect is particularly remarkable for the abnormal development of the head in the male and of the pronotum in the female, the male reminding one strongly of wingless Stenopelmatids occurring in the same regions of Africa. The mandibles are equally well developed and brilliant red in both sexes, but the red colour becomes invisible when the mandibles are closed, as they normally are. It would be useless to speculate on the biological significance of the coloration of mandibles, since nothing is known about the habits of these insects, which probably belong to the true desert fauna.

I have before me also a series of very small larvae (first and second stage) of the same species collected at Outjo in January ; it may be judged from the data that larvae hatch in January and the adult stage is reached in March.

I suspected this insect to be identical with *Crypsicerus cubicus*

Saussure, which has been described from a single female, but there are some differences between Saussure's species and our specimens, which cannot be specific only. Thus, in *C. cubicus* the vertex forms a right angle with the face, while in *B. rubridens* the angle is very obtuse, particularly in the female. Antennal furrows, which are purple in my species, are black in the other, but this is a specific character, though the length of antennae is generic. The description of the shape of pronotum given by Saussure is not very lucid, but in *B. rubridens* the pronotum is certainly not " rhomboidale " ; hind margin in Saussure's species is said to be " latiuscule truncatus, subarcuatim incisus," which description does not fit our insect at all. Hind tibiae in *C. cubicus* are armed with 5 inner and 6 outer spines, there being no apical spine on both sides ; in *B. rubridens* there are 6 inner and 7 outer spines, as well as a small, but distinct, apical spine on the inner side. The presence of the latter spine, and the structure of the frons, vertex, and antennae, excludes my species from the genus *Crypsicerus*, according to Saussure's key to genera, although I am not inclined to attach too much importance to the spine ; in any case, the genus *Lathicerus*, in which the spine is present, is widely different from *Crypsicerus* in the structure of the sternum.

The larvae of *B. rubridens*, even in the first stage, possess all these characters separating them from *C. cubicus*.

Subfamily PAMPHAGINAE.

Genus Charilaus Stål.

Charilaus monomorphus, sp. n.

(Text-fig. 10.)

1876. *Charilaus carinatus*, Stål (*partim* !), Öfver. K. Vet.-Akad. Förh., 1876, No. 3, p. 35, ♀ (*nec* ♂ !).

Differs from all known species by the elytra being rudimentary and the pronotum truncate in both sexes.

♂ (*type*). Antennae considerably longer than head and pronotum together, compressed, but little dilated, basally.

Head acutely conical, as long as the pronotum. Face strongly oblique, slightly concave in profile, finely rugulose. Frontal ridge above the ocellum compressed and finely sulcate, below the ocellum

gradually widened downwards with the margins little raised and the surface scarcely impressed, rugulose. Lateral facial keels fine, straight. Cheeks with fine transverse rugosities. Fastigium of vertex longer than at the base wide, parabolic in shape ; the apex with a narrow, closed slit ; the surface of the fastigium slightly concave, finely rugulose ; the two parallel carinae distinct, though not sharp, becoming irregular on the occiput ; median carinula scarcely perceptible.

Pronotum with the surface rugulose and granulose. The paired median carinae gradually convergent backwards. Lateral carinae developed between the front margin and the first sulcus, slightly incurved and convergent backwards ; lateral carinae of the metazona are sharp, much more distant from each other than those of the prozona, feebly convergent backwards, while in front of the typical sulcus their prolongation is formed by oblique supplementary carinae of the lateral lobes. Both the front and the hind margin of the pronotal disc are broadly rounded-truncate. Only the typical sulcus developed on the disc and cutting all three keels. Metazona trapezoidal, equal in length to about three-fourths of the prozona ; the width at the hind margin a little greater than the length. Lateral lobes much longer than deep ; front margin oblique, feebly sinuate ; lower margin practically straight ; hind margin strongly rounded-excised in the lower half, straight and very oblique above ; front angle obtuse, hind angle subacute ; surface uneven and with round tubercles ; the space between the lateral keels and the supplementary oblique keels of the prozona smooth, longitudinally depressed, the depression being obtusely triangular in cross-section ; there are two deep sulci, the typical one and one in front of it cutting the supplementary keels.

(Prosternum deformed by the pin.) Mesosternal lobes well separated. The piece between the metasternal lobes circular.

Mesonotum, metanotum, and abdomen with an acute median carina. Elytra elongate-oval, lateral, not reaching the middle of the first tergite, with strongly prominent veins and veinlets.

Abdomen with the apex slightly recurved. Last tergite with a very large trapezoidal emargination, so that only its sides remain and the supra-anal plate appears to follow the tergite before the last. Supra-anal plate large and consisting of two pieces ; the basal piece is trapezoidal with broadly rounded apex and occupies the place of the cut-out portion of the last tergite ; the apical piece is elongate-triangular, with feebly convex sides and acute apex. Cerci very

small, conical. Subgenital plate short, round, with the apex truncate and slightly emarginate.

Coloration pale green. Antennae purplish-brown, purplish-red basally. Frontal ridge in its lower portion and broad but indefinite postocular fasciae, whitish ; each of the fasciae includes a yellowish callous stripe ; cheeks with an oblique yellowish-green stripe ; vertex and occiput with brown stripes along the outer edge of the median keels. Pronotum with the following portions brown or brownish : median keels and their interspace in the metazona ; depressed space

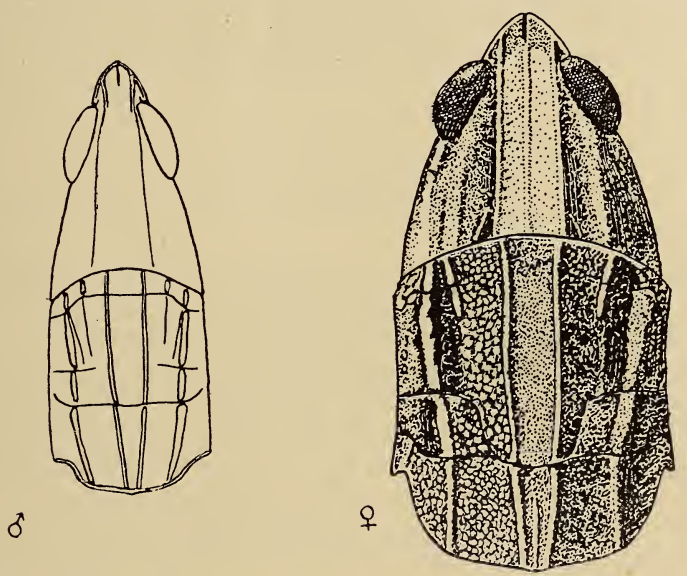

Fig. 10.—*Charilaus monomorphus*, sp. n., ♂ and ♀.

between the lateral keels and the supplementary keels in the prozona ; the space between the two sulci of the lateral lobes ; and the lower portion of the prozona of the lobes, except the front lower angle. Mesopleurae brown. Elytra chocolate-brown, with the costal margin, radial veins, and the anal margin paler. Abdomen with indistinct darkish lateral fasciae. Lower sulcus of the hind femora pale sealing-wax-red. Hind tibiae purple ; their spines very pale testaceous with black tips.

♀ (*paratype*). Considerably larger and more stout than the male. Fastigium of vertex transverse, with the apex obtuse. Head only as long as the prozona of pronotum. Metazona of pronotum about half the length of the prozona ; its width at the hind margin more

than one and a half times the length; surface of the pronotum generally more coarsely sculptured, with more developed keels; front and hind margin as in the male. Elytra perfectly lateral, narrow, not reaching the hind margin of the metanotum. Last tergite cut out as in the male; supra-anal plate also similar, but the apical portion is a short equilateral triangle. Upper valves of the ovipositor broad and short; lower valves very small. General coloration brown, with dark brown and blackish pattern as in the male. Abdomen with black lateral fasciae, including small round reddish-testaceous dots placed in a row. Lower sulcus of the hind femora reddish on the inner edge, reddish-brown in the rest; hind tibiae brownish.

Length of body, ♂ 25, ♀ 35; head, ♂ 6, ♀ 6; pronotum, ♂ 6, ♀ 9·5; elytra, ♂ 4, ♀ 4·5; hind femur, ♂ 13, ♀ 16 mm.

South West Africa: Ondongua, Ovamboland, February 1921, 1 ♂ (K. H. Barnard); Tsumeb, December 1919, 1 ♀, 1 larva ♀ (R. W. Tucker).

Stål described his *Charilaus carinatus* originally from a male from the Transvaal (Observ. Orthopt., i, 1875, p. 26), but subsequently (1876) he referred to the same species a female from Damaraland; the two insects differed strongly in the development of the organs of flight and in the shape of the hind pronotal margin, but Stål apparently believed these to be sexual characters. Bolivar (An. Soc. Esp. Hist. Nat., xiii, p. 487) questioned Stål's view, and so did Karsch (Stett. Ent. Zeit., 1896, p. 274), but Saussure (Abh. Senkenberg. Ges., xxi, p. 654) supported Stål's idea on the ground that the hind margin of pronotum may vary in correlation with the development of wings. None of the authors, however, knew both sexes of undoubtedly the same species, since Karny (*l.c.*, p. 58) suspected, in my opinion with full reason, that the types (♂ and ♀) of Saussure's *Ch. brunneri* were not conspecific. On the other hand, Karny described *Ch. curvicollis* from two sexes and they were similar, and the same can be said about my new species.

Bolivar in a later paper (Gen. Insect., Fasc. 170, 1916, p. 7) changed his views, and separated into a special genus *Cephalacris* Bol. the species in which the two sexes are similar, leaving in *Charilaus* only the supposedly dimorphic ones, *i.e. Ch. carinatus* St. and *Ch. brunneri* Sauss., in both of which, as we have seen, the association of the sexes appears very doubtful.

My own opinion is that there is no reason to accept Stål's and Saussure's views on the existence of a strong sexual dimorphism in

Charilaus; consequently, there is no ground to retain *Cephalacris* as a distinct genus. I abstain, however, from entering into generic and specific synonymy of the group, hoping to be able to do it later with a larger material and after a re-examination of the types of described species.

Subfamily PYRGOMORPHINAE.

Genus Chrotogonus Serville.

Chrotogonus distanti Kirby.

Amatonga Land, January 1889, 1 ♀ (J. de Coster).

Genus Maphyteus I. Bolivar.

Maphyteus baccatus (Stål).

South West Africa: Windhoek, 1919, 1 ♀; Gaub, January 1919, 1 ♂ (R. Lightfoot).

Genus Phymateus Thunberg.

Phymateus viridipes Stål.

South West Africa: Windhoek, 1919, 1 ♂; Tsumeb, December 1919, 2 ♂♂ (R. W. Tucker).

Genus Zonocerus Stål.

Zonocerus elegans (Thunberg).

A series of specimens from various localities.

Genus Pyrgomorpha Serville.

Pyrgomorpha granulata Stål.

1875. *Pyrgomorpha granulata*, Stål, Bih. Sven. Akad. Handl., iii (14), p. 26.

1901. *Pyrgomorpha sanderi*, Krauss, Verh. zool.-bot. ges. Wien, li, p. 287 (*syn. nov.*).

1904. *Tanita sanderi*, I. Bolivar, Bol. Soc. Esp. Hist. Nat., iv, pp. 447, 449.

South West Africa: Okahandja, December 12, 1927 to March 1, 1928, 5 ♂♂ (R. E. Turner; British Museum); Hoarusib (Otshu), March 1926, 1 ♀ (Mus. Exped.); Nuragas, January 1919, 2 ♂♂, 1 ♀

(R. Lightfoot); Tsumeb, 1922, 1 ♀ (E. Kochig); Waterberg, February 1920, 1 ♂ (R. W. Tucker).

I have carefully compared a co-type of *P. granulata* St. with the description of *P. sanderi* Kr. and could find no characters to justify regarding the latter as an independent species. The reason for Krauss doing so was, no doubt, that he did not know the true *P. granulata*, and compared his type of *P. sanderi* with a species from Senegal identified by him as *granulata*, but actually well distinct from it and described by me (Trans. Ent. Soc. London [1925], 1926, p. 440) under the name *P. kruassi* Uv.

The species clearly does not belong to the genus *Tanita* where I. Bolivar included it in his monograph (*l.c.*).

The sculpture of the head and pronotum, *i.e.* their puncturation and granulation, vary considerably in the series studied by me, but the variations are clearly individual.

Subfamily CATANTOPINAE.

Genus Mesopsis I. Bolivar.

Mesopsis hessei, sp. n.

(Text-fig. 11.)

Allied to the West African *M. abbreviatus* (Pal. Beauv.), but differing from it in the structure of the vertex and in the relatively much shorter male subgenital plate.

♂ (*type*). Antennae nearly twice as long as head and pronotum together; joints 3–7 flattened and expanded, 8th depressed but rounded, the rest cylindrical.

Frontal ridge parallel-sided and shallowly sulcate, at the fastigium strongly compressed and deeply and narrowly sulcate, below the ocellum obsolescent. Fastigium of vertex equal in length to the pronotum, well convex throughout, the margins not at all reflexed and distinctly converging towards the apex which is parabolic in shape. Median carina of the head well raised throughout, becoming obsolete only on the occiput. Lateral foveolae of the vertex extending a little beyond the middle of the fastigium, imperfectly marginated near the apex. Lateral facial keels obtuse.

Pronotum rounded and shallowly punctured above. Median carina low, but distinct throughout. Lower margin of the lateral lobes shallowly excavate about the middle. Hind margin of the disc well rounded.

Elytra extending well beyond the hind knees, but not covering the whole of the abdomen.

Cerci scarcely longer than the supra-anal plate. Subgenital plate only somewhat longer than the head, straight in profile, not strongly pointed apically.

General coloration pale greenish. Antennae brownish. A silvery-white stripe runs behind the eyes, along the lower margins of the pronotal lobes of the pleurae and the outer face of the hind femora. Hind wings infumate in more than the basal half. Upper margin of the subgenital plate black.

♀ (*paratype*). Vertex thick; its lateral foveolae extending well beyond the middle. Lateral facial keels almost obsolete. Wings infumate only in the basal third.

Length of body, ♂ 57, ♀ 60; head, ♂ 10, ♀ 13; pronotum, ♂ 5·5, ♀ 7·5; elytra, ♂ 28, ♀ 28; hind femur, ♂ 15, ♀ 21; subgenital plate, ♂ 11·5 mm.

South West Africa: Otjituo, January 1920, 2 ♂♂ (one of them the type), 2 ♀♀ (R. W. Tucker); Tsumeb, December 1919, 1 ♂, 1 larva ♀ (R. W. Tucker); Waterberg, February 1920, 1 ♀ (R. W. Tucker); Nuragas, January 1920, 1 ♂ (R. W. Tucker).

Fig. 11.—*Mesopsis hessei*, sp. n., ♂.

In all known species of the genus the lateral margins of the fastigium are decidedly dilated and reflexed; least of all is this character developed in *M. abbreviatus*, but the new species is remarkable for the still greater reduction of the margins, the whole fastigium being rather stout and distinctly narrowed forward. The much shorter subgenital plate of the male supplies another character differentiating *M. hessei* from *M. abbreviatus*, in which latter the plate is nearly as long as the head and pronotum together.

I dedicate this species to Dr. A. J. Hesse, of the South African Museum.

Genus Shelfordites Karny.

Shelfordites aberrans Karny.

(Text-fig. 12.)

I have now studied the type of this curious insect and it proves to be undoubtedly congeneric with *Shelfordites nanus* m., which I

have doubtfully referred to the genus. The study of the genotype supports my statement that the genus *Shelfordites* should be referred to the subfamily *Catantopinae*, in the immediate neighbourhood of *Hemiacris* Walk. and *Euthymia* St.; I may add that the genus *Mecostibus* Karsch also belongs to this aberrant group.

Karny's statement that the mesosternal lobes in his species are subcontiguous is erroneous; the lobes are well separated by an interspace which is narrowed in the middle (owing to the convexity

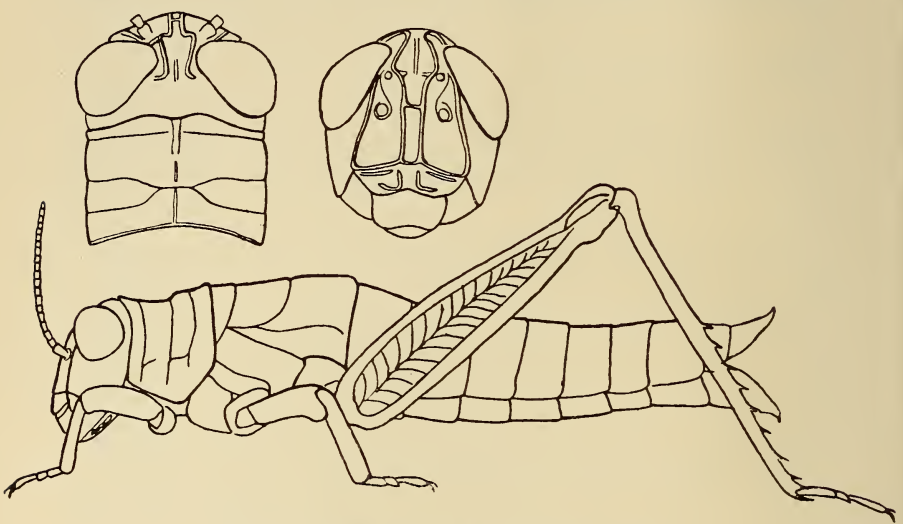

Fig. 12.—*Shelfordites aberrans*, Karny, ♀, type.

of the inner margins of the lobes), but even there about as broad as half the lobe.

S. aberrans differs from *S. nanus* by its considerably larger size; by the much rougher sculpturing characterised by the presence of rounded tubercles, especially on the pronotum; by the more prognathic head; by the shape of the lateral pronotal lobes; and by the inner side of the hind femora being black, with pale transverse ridges, throughout except two pale fasciae near the apex.

Genus Spathosternum Krauss.

Spathosternum nigrotaeniatum (Stål).

South West Africa: Waterberg, February 1920, 2 ♂♂ (R. W. Tucker); Otjituo, January 1920, 1 ♂ (R. W. Tucker); Gaub, January 1919, 2 ♂♂, 1 ♀ (R. Lightfoot).

Genus Thisoicetrus Brunner Watt.

Thisoicetrus prasinatus (Stål).

1876. *Euprepocnemis prasinata*, Stål, Öfver. K. Vet. Akad. Forhandl., 1876, No. 3, p. 44.

1910. *Thisoicetrus sjöstedti*, Karny, *l.c.*, p. 69 (*syn. nov.*).

A series of specimens from several localities in South West Africa : Ombombo, Kamanyab, Zesfontein, Kaoko Otavi, Hoarusib River (Otshu), Tsumeb, Otjiverongo, Okorosawe.

Karny's types are all badly discoloured by alcohol ; a male from Okahandja is selected here as the single type of *Th. sjöstedti*. The specimens before me agree quite well with this type and with Stål's paratype of *E. prasinata* from Damaraland, so that the above synonymy is beyond doubt.

Genus Acorypha Krauss.

1877. *Acorypha*, Krauss, Sitz.-ber. k. Akad. Wiss. Wien, 1 Abt., lxxvi, p. 38.

1889. *Caloptenopsis*, I. Bolivar, Jorn. Sci. Lisboa (2), i, p. 173.

The above generic synonymy has already been published by me (Trans. Ent. Soc. London [1925], 1926, p. 452), but I think it useful to repeat it here.

Acorypha pallidicornis (Stål).

South West Africa : Tsumeb, January 1921, 1 ♂ (E. Kochig).

Acorypha gilli, sp. n.

(Plate II, fig. 3.)

A large and robust species, remarkable for the colour of its hind wings.

♂ (*type*). Antennae longer than head and pronotum together, slightly compressed. Frontal ridge distinctly narrowed at the fastigium, gradually but feebly widened downwards, not impressed at the ocellum, bearing minute scattered punctures below the latter and fairly dense elongate ones above it. Fastigium of vertex decidedly sloping, forming a broad bow with the frontal ridge, slightly widened forward, distinctly sulcate ; interocular distance equal to the width of the frontal ridge between antennae.

Pronotum with the disc obtusely tectiform, smooth, but not shiny.

Metazona much longer than prozona. Hind angle of the disc obtuse, rounded. Median carina well developed, linear. Lateral carinae gradually diverging behind, obtuse, in metazona obsolescent, punctured. Lateral lobes much higher than long, densely punctured (even honeycombed) in metazona.

Elytra extending well beyond the hind knees, transparent in the apical half.

Prosternal tubercle transversely compressed, the sides straight, subconvergent towards the truncate apex. Mesosternal interspace quadrate. Metasternal lobes narrowly separated.

Hind femora very broad ; upper carina acutely denticulate. Hind tibiae with six outer and seven inner spines ; the inner lower spur not much longer than the outer one, regularly curved at the apex.

Supra-anal plate very long and narrow ; its lateral margins straight and subparallel in more than basal third, then straight and convergent towards the narrow apex, which bears an acute triangular projection ; the surface depressed and sulcate longitudinally. Cerci large, of the usual type for the genus.

Antennae, top of the head, and pronotal disc buff. Face testaceous ; cheeks white ; eyes narrowly marginated with black behind. Lateral pronotal lobes in the upper half brown with two whitish spots in prozona, in the lower half whitish, with brown spots mainly in metazona. Elytra deep chocolate-brown, with narrow whitish fasciae and spots, in the basal half, except in the anal area which is pale buff ; the apical half is hyaline, with an oblique brown fascia and a few spots of the same colour. Wings violaceous-blue near the base. Hind femora with the inner side and lower sulcus black, with a pale preapical ring ; outer side white, with serially disposed round brown spots, and with blackish spots on the lower carina ; knees brown above, black on the sides, with the lobes whitish. Hind tibiae dirty bluish, with a paler subbasal ring, followed by a darker one ; spines with black tips.

♀ (*paratype*). Larger than the male. Pronotal disc brown, with two lateral buff stripes.

Length of body, ♂ 25, ♀ 38 ; pronotum, ♂ 5·5, ♀ 8 ; elytra, ♂ 25, ♀ 34 ; hind femur, ♂ 15, ♀ 21 mm.

South West Africa : Windhoek, November 1920, 2 ♂♂ (including the type), 1 ♀ (S. Gilman) ; Usakos, February 1920, 1 ♀ (R. W. Tucker) ; Zesfontein, February 1925, 1 ♀ (Mus. Exped.) ; 1 ♀ without exact locality ; Okahandja, March 19–20, 1928, 1 ♂ (R. E. Turner ; British Museum).

I have the pleasure to dedicate this beautiful species, easily recognisable by the coloration of its wings, to Dr. E. L. Gill, Director of the South African Museum.

The female paratype described above and figured belongs to a striped form parallel to the ab. *marginellus* Serv. of the Mediterranean *Calliptamus italicus* (L.).

Genus Catantops Schaum.

Catantops sulphureus (Walker).

1870. *Catantops sulphureus*, Walker, Cat. Derm. Salt. Brit. Mus., iv, p. 695.

1873. *Catantops decoratus*, Gerstaecker, Arch. Naturgesch., xxv, p. 219 (*syn. nov.*).

1900. *Catantops solitarius*, Karsch, Entom. Nachr., xxvi, p. 280.

1901. *Catantops solitarius*, Krauss, Verh. zool.-bot. Ges. Wien, li, p. 289.

1925. *Catantops sulphureus*, Uvarov, Trans. Ent. Soc. London, 1925, p. 295.

South West Africa: Outjo, January 1926, 1 ♀ (Mus. Exped.); Okahandja, March 19–20, 1928, 1 ♂ (R. E. Turner).

The only difference between *C. sulphureus* and *C. decoratus* is the presence in the former of a small black spot on the outside of the hind femora; this spot, however, varies in size, and may be fairly large or represented only by a minute dot; this dot may disappear altogether, and I have before me one female from Zanzibar in which there is a dot on the left femur, but no dot on the right one. The character is obviously of no value.

Catantops debilis Krauss.

South West Africa: Okahandja, March 2–29, 1928, 1 ♂, 3 ♀♀ (R. E. Turner; British Museum); Warmbad, Kaokoveld, February 1925, 2 ♂♂; Outjo, January 1925, 2 ♀♀; Hoarusib (Otshu), March 1926, 1 ♂; Otjikondo, January 1925, 1 ♂; Kamanyab, March 1925, 1 ♀ (Mus. Exped.); Narebis, March 1921, 2 ♀♀ (K. H. Barnard).

Catantops melanostictus Schaum.

South West Africa: Otjituo, January 1920, 2 ♂♂ (R. W. Tucker); Grootfontein, December 1918, 1 ♀ (R. M. Lightfoot); Nuragas,

January 1919, 2 ♀♀ (R. Lightfoot); Tsumeb, December 1919, 2 ♀♀ (R. W. Tucker).

Genus Acridoderes I. Bolivar.

Acridoderes crassus I. Bolivar.

South West Africa: Kuring Kuru, Okovango, February 1923, 1 ♀ (R. Dickman).

Known previously only from Angola and Mashonaland.

Genus Schistocerca Stål.

Schistocerca gregaria (Forskal) ph. *flaviventris* (Burmeister).

South West Africa: Kamanyab, January 1925, 1 ♀ (Mus. Exped.); Omaruru, 1921, 1 ♀ (J. S. Brown).

This is the non-swarming phase of the desert locust of North Africa and South-Western Asia. There is no doubt that the species swarms occasionally in South West Africa as well, but it has never been distinguished by farmers and by local entomologists from other native species of locusts. (On this subject see pp. 254 and 273 of my book: "Locusts and Grasshoppers," London, Imperial Bureau of Entomology, 1928.)

Genus Anacridium Uvarov.

1923. *Anacridium*, Uvarov, Ann. Mag. Nat. Hist. (9), xi, pp. 141, 485.

Anacridium moestum (Serville).

South West Africa: Omaruru, 1921, 2 ♂♂ (J. S. Brown); Warmbad, Kaokoveld, February 1925, 1 ♀ (Mus. Exped.).

Genus Cyrtacanthacris Walker.

Cyrtacanthacris tatarica (Linné).

South West Africa: Narebis, 1921, 1 ♂ (K. H. Barnard); Sandfontein, January 1921, 1 ♀ (S. Gillman); Kaross, February 1925, 1 ♀ (Mus. Exped.).

Cyrtacanthacris aeruginosa aeruginosa (Stoll).

Ovamboland: Ondongua, February 1921, 1 ♂ (K. H. Barnard).

Genus Kraussaria Uvarov.

1923. *Kraussaria*, Uvarov, Ann. Mag. Nat. Hist. (9), xi, p. 104.

Kraussaria prasina (Walker).

South West Africa : Kaoko Otavi, March 1926, 1 ♂ (Mus. Exped.).

EXPLANATION OF PLATE II.

1. *Pycnodictya herero*, Karny, ♀ (p. 51).
2. *Bufotettix rubridens*, g. et sp. n., ♂. Front view of the head (p. 58).
3. *Acorypha gilli*, sp. n., ♀ (p. 71).